

20SK – Signals and Codes

Lecture 4 – Spectrum analysis

Topics discussed:

- Amplitude and phase spectrum of a signal
- Phasor addition, sum of complex exponentials
- Fourier analysis of a signal.

The relevant literature is [3, chapter 3] + CZ [4, chapter 2]

Resources

- [1] Introduction to Signals and Systems
- [2] Oppenheim, A.: Course materials for 6.007 Signals and Systems, spring 2011. MIT OpenCourseWare (<http://ocw.mit.edu/>), Massachusetts Institute of Technology
- [3] McClellan, Schafer and Yoder, Signal Processing First, ISBN 0-13-065562-7., Prentice Hall, Upper Saddle River, NJ 07458. 2003 Pearson Education, Inc.
- [4] Hrdina, Z., Vejražka, F.: Signály a soustavy. [skriptum] Praha, ČVUT, 1998

Additional resources:

- [a] Wickert, M.: Course materials for ECE 2610 Introduction to Signals and Systems, spring 2011. OpenCourseWare (<http://www.eas.uccs.edu/wickert/ece2610/>), University of Colorado
- [b] Gallager, R.: Course materials for 6.450 Principles of Digital Communications I, fall 2006. MIT OpenCourseWare (<http://ocw.mit.edu/>), Massachusetts Institute of Technology